TVP5147 Evalution Module

Quick Start Guide

Literature Number: SLEU102
September 2008

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Read This First

About This Manual

This is a quick reference guide to get the TVP5147 evaluation module (EVM) up and running.

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TVP5147EVM Quick Start Guide

1.1 Introduction

The TVP5147 evaluation module (EVM) is designed specifically for evaluating the TVP5147 high quality NTSC/PAL/SECAM video decoder. The EVM is powered by a 5-V, 3-A universal power supply that is functional in any country. This power supply is provided. Communication with the EVM is emulated using a PC parallel port.

1.2 Overview

The TVP5147EVM supports composite, S-video, and component analog video inputs and outputs. The analog outputs are all available simultaneously. The 5-V supply and the I^2C signals are shared across a common connector interface along with the necessary data and clocks.

1.3 Hardware Description

The TVP5147EVM supports the following analog inputs:

- 4 CVBS, 1 SV
- 1 CVBS, 1 SV, 1 YPbPr

These inputs were defined for convenience of testing all TVP5147 supported video types with the TVP5147EVM. The complete list of selectable input configurations for the TVP5147 is available in the data manual (SLES099). The user is able to provide composite, component, and S-video inputs and switch between them using the provided WinVCC software application to control the TVP5147EVM.

All inputs have discrete anti-alias filters that can be used by shorting positions 1 to 3 and 2 to 4 on jumpers JP1, JP2, JP7, JP8, JP9, and JP10. The filters may be bypassed by shorting positions 1 to 2 and 3 to 4 on the aforementioned jumpers. The filters are in circuit by default.

By default, the digital data provided to the video encoder from the TVP5147 is 10-bit ITU-R BT.656 data. The video format and channel selection, along with other controls for both the video encoder and the TVP5147 are available using WinVCC.

The TVP5147EVM board has one analog output for monitoring the CVBS or Y input. The analog video output of the encoder board has reconstruction filters.

1.4 Software Tools

WinVCC is a Windows application that uses the PC parallel port to emulate I^2C, providing access to all registers of each device. WinVCC makes use of CMD files that allow preset video setups to be programmed easily without reprogramming each register multiple times. These .CMD files are completely unrelated to the typical Windows .CMD files and may be edited using a text editor. This feature allows the user to easily set I^2C registers with the press of a button. WinVCC also has Property Sheets for the TVP5147, which allows the user to control the I^2C registers via a graphical user interface (GUI).

1.5 Software Installation

1. Insert the CD-ROM into the computer that emulates the I^2C bus via the parallel port.
2. Run the SETUP.EXE file to install WinVCC and documentation.
3. Click Next at all prompts and finally click Finish to complete the installation process.
4. A message may appear instructing you to install the DriverLINX port I/O driver (if it was not previously installed). This must be installed for WinVCC to run. To install the driver, run PORT95NT.EXE, which is located in the root directory of the installation CD-ROM.
5. At the root directory of the installation CD is a zip file named Application_Reports.zip, which contains several application documents.

1.6 Hardware Setup

1. Connect the TVP5147EVM and the video encoder board together.
2. Connect all necessary video input and output cables to both the TVP5147EVM and the video encoder board.

Note: The default register settings used by WinVCC use a CVBS input on CH4 of the TVP5147EVM.

3. Connect a PC parallel port cable to the TVP5147 DB25 connector.
4. Provide the 5-V supply via the dc jack on the TVP5147 board using the provided power supply. Verify that the green LED on each board is on.
5. Go to Start->Programs->TVP5147EVM Software to start WinVCC.
6. In the WinVCC configuration dialog box, ensure that the settings are as follows:

DEVICE FAMILY	SPECIFIC DEVICE	I2C SLAVE ADDR
VID_DEC	TVP5147	0xB8
VID_ENC	7194 Encoder	0x54

   Click OK to continue.
7. Provide a video pattern to the TVP5147EVM video input(s).
8. Click Tools>System Initialization. A window opens with the default command file for the TVP5147EVM preloaded. If necessary, click the Browse button to load the default command file from the following directory:

   C:\Program Files\Texas Instruments\TVP5147EVM\Initialization
9. Select the desired setup depending on the connected inputs, outputs, and video format of the pattern. Choose the setup by clicking once on its description. Click the Program... button once to program the TVP5147EVM.

Note: Do not double click on a .CMD file in Windows Explorer. Right click on the file and select Edit to open the .CMD file in a text editor.

10. Proper video should now be observed on the video display.

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